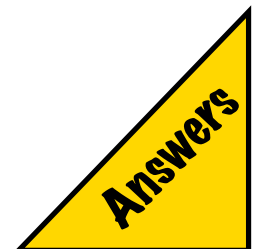
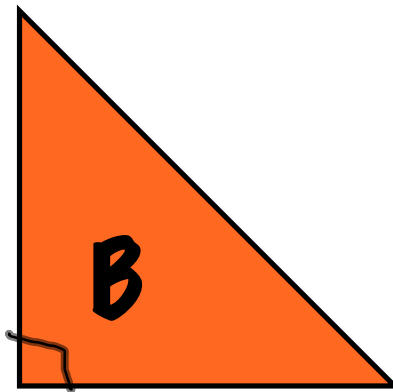
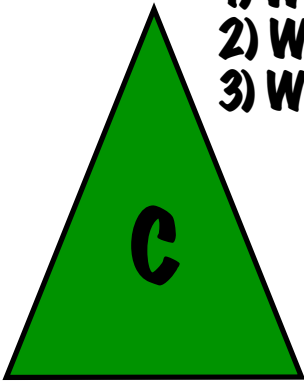


Let's talk triangles!

Warm-up

- 1) Which of these triangles is a right triangle?
- 2) Which of these triangles is an acute triangle?
- 3) Which of these triangles is an obtuse triangle?



Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm



Complete Labsheet 5A

$$\begin{array}{r} 21 \\ +13 \\ \hline 34 \end{array}$$



Now it's time
for partner work!

Directions:

- 1) For the triangle you formed, fill in Column 1 with the side lengths. HINT: c is the longest side.
- 2) Complete Column 2, Column 3, & Column 4 of the table.
- 3) Put a $>$, $<$, or $=$ symbol in Column 5 to show how the sum of the areas of the smaller squares compare with the area of the largest square.
- 4) Classify each triangle as acute, right, or obtuse in column 5. You can use a protractor if needed to tell whether an angle is acute, right, or obtuse.
- 5) Be ready to share your results with the rest of the class.


Column 1			Column 2		Column 3	Column 4	Column 5	Column 6
Side lengths (cm)			Areas of smaller squares (cm ²)		Sum of squares	Area of longest side (cm ²)	Compare sums $<$, $>$, $=$	Type of triangle
a	b	c	a^2	b^2	$a^2 + b^2$	c^2	$a^2 + b^2$? c^2	Acute, right, or obtuse
5	12	13	25	144	169	169	$169 = 169$	Right
8	10	11	64	100	164	121	$164 > 121$	Acute
6	5	9	36	25	61	81	$61 < 81$	Obtuse
8	6	10	64	36	100	100	$100 = 100$	Right
5	8	9	25	64	89	81	$89 > 81$	Acute
5	9	12	25	81	106	144	$106 < 144$	Obtuse


Wrap Up!



MATH DICTIONARY

Triangle side relationship:

IF $a^2 + b^2 = c^2$ THEN the triangle is RIGHT.


IF $a^2 + b^2 < c^2$ THEN the triangle is OBTUSE.


IF $a^2 + b^2 > c^2$ THEN the triangle is ACUTE.


 C is ALWAYS the LONGEST side. 

Examples:

Tell whether a triangle with the given lengths is acute, right, or obtuse.

1. $\overset{a}{8} \text{ cm}, \overset{c}{9} \text{ cm}, \overset{b}{5} \text{ cm}$

$$a^2 + b^2 \square c^2$$

$$8^2 + 5^2 \square 9^2$$

$$64 + 25 \square 81$$

$$89 \square 81$$

Acute

2. $\overset{c}{12} \text{ in}, 5 \text{ in}, 13 \text{ in}$

$$a^2 + b^2 \square c^2$$

$$5^2 + 12^2 \square 13^2$$

$$25 + 144 \square 169$$

$$169 \square 169$$

Right

Homework

#3

page 298 #1-7
AND
page 299 #19-21